REMARKS

Reconsideration of this application, as amended, is respectfully requested.

Prior to this amendment, Claims 1-13 were pending in the application, with Claims 1 and 12 being independent claims. As indicated above, Claims 1, 4, 5, 7, 10, 11 and 12 are amended, and Claim 13 is cancelled. Additionally, the Specification and claims are amended.

In the Office Action, Claims 1 and 4-12 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Applicant's Admitted Prior Art (AAPA)* in view of *Uesugi et al.* (US 2002/0114379), Claims 2 and 13 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *AAPA* in view of *Uesugi* and further in view of *Matsumoto et al.* (US 2002/0136207), and Claim 3 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *AAPA* in view of *Uesugi* and further in view of *Lassen et al.* (US 2002/0087685). Additionally, Claims 2, 3, 9, and 10 are rejected under 35 U.S.C. §112, second paragraphs.

In response to the objection to the drawings, as described above, Replacement Figs. 1, 2 and 3, are amended to include the legend "Prior Art". It is submitted that Replacement Figs. 1, 2 and 3 overcome the Examiner's objection.

Regarding the rejection under 35 U.S.C. §112, second paragraph, the Examiner rejects Claims 1-11 as allegedly being indefinite. Specifically, the Examiner alleges that the Claim 1 is indefinite for reciting that the channel decoder, in addition to decoding the data stored in the slot buffer, also is for "analyzing modulation methods for each sub-channels", as the Examiner alleges that the Specification does not provide a description of the structure used to perform this function, as required by 35 U.S.C. §112, sixth paragraph. However, Applicants respectfully disagree, as "analyzing modulation methods for each sub-channels" is clearly supported by paragraph [44] of the current Application.

Accordingly, based on the foregoing, it is respectfully requested that the rejection be withdrawn.

As indicated above, independent amended Claim 1 is rejected under 35 U.S.C. §103(a) as being unpatentable over *AAPA* in view of *Uesugi*. Specifically, in rejecting Claim 1, the Examiner asserts that *AAPA* teaches all the recitations of the claims, except for "demapping process to the received signals by a modulation method using a maximum modulation ratio, and outputting data, until modulation methods for each sub-channels are analyzed", which are allegedly taught in *Uesugi*. However, Applicants respectfully disagree.

Amended Claim 1 recites a demodulation apparatus for receiving signals by an adaptive modulation and coding method, and demodulating the signals, in an OFDMA based packet communication system, comprising:

a QAM demapper for performing a QAM (Quadrature Amplitude Modulation) demapping process on the received signals by a modulation method using a maximum modulation ratio, and outputting data, until modulation methods for each of the sub-channels are analyzed;

a slot buffer for storing the data outputted from the QAM demapper for each slot; and

a channel decoder for decoding the data stored in the slot buffer, for analyzing modulation methods for each of the sub-channels and transferring the analyzed modulation methods to the QAM demapper, and for reading valid data from the data stored in the slot buffer, based on the analyzed modulation methods for each of the sub channels and demodulating the valid data, and outputting the demodulated data.

More specifically, the Examiner alleges that *AAPA* discloses "reading valid data from the data stored in the slot buffer, based on the analyzed modulation methods for each sub channels and demodulating the valid data, and outputting the demodulated data", as

recited in Claim 1, citing, *inter alia*, paragraph [0010] of current Application.

However, upon review of paragraph [0010] of *AAPA*, it is respectfully submitted that there is no portion of this citation, or any other section of *AAPA*, which teaches these recitations of Claim 1. For ease of comparison, paragraph [0010] of *AAPA* reads as follows:

> [0010] As referred to in FIG. 2, the received OFDMA packet is transformed in a Fast Fourier Transform (FFT) device by an FFT method. A channel for the packet is estimated and is equalized in an equalizer 23 through a re-ordering buffer 22, and it is QAM demapped in a QAM (Quadrature Amplitude Modulation) demapper 25. It is then channel decoded in a channel decoder 27 through a slot buffer 26, and it is finally demodulated.

As can be seen above, *AAPA* does not disclose "reading valid data from the data stored in the slot buffer, based on the analyzed modulation methods for each sub channels and demodulating the valid data, and outputting the demodulated data", as recited in Claim 1.

Therefore, it is respectfully submitted that the interpretation asserted by the Examiner is not supported by the disclosure of *AAPA*.

Dependent Claim 13 recites similar features as those discussed above regarding independent Claim 1. Accordingly, in order to further distinguish independent Claim 12 from the Examiner's cited art, Claim 12 is amended to include the recitations of dependent Claim 13. Therefore, for the same reasoning argued above for Claim 1, it is also respectfully submitted that the rejection of amended independent Claim 12 should be withdrawn.

Accordingly, it is respectfully submitted that independent Claims 1 and 12 are in condition for allowance.

Without conceding the patentability *per se* of dependent Claims 2-11 each depend either directly or indirectly from independent Claim 1, and are also believed to be patentable for at least the same reasons as set forth above for amended independent Claim 1.

Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicants' attorney at the number given below.

Respectfully submitted,

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Enclosures: Submission of Replacement Drawing Sheets